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ABSTRACT

A study involving 20 British teachers assessed the use of micro-teaching techniques in the training of oral assessors (raters) of students. The study was designed to: measure the efficacy of a training program versus that of a sensitization program, examine methodologies associated with micro-teaching as applied to specific in-service teacher training, and draw conclusions and provide recommendations about the means by which oral assessors may be trained in the future. After a 1979 pilot study, a full study design was implemented to assess the areas of structure, reinforcement, pauses and questions, process indications, and specific skills of oral assessors. Videotapes of subsequent oral assessment interviews between teachers trained during the study and students were rated by six experts. Results indicate that: (1) the micro-teaching experience produces a "transfer of learning" effect that is able to change the behavior of experienced professionals; (2) micro-teaching techniques could be reconstructed as a learning package for in-service training of teachers; and (3) most of the teachers in the micro-teaching group significantly improved their interviewing skills. A bibliography of micro-teaching guides and studies is appended. (TJH)

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THE TEACHING/LEARNING LABORATORY

A VEHICLE FOR RESEARCH, DEVELOPMENT AND TRAINING

IN TEACHER EDUCATION

The Application of Microteaching Methodologies to the Training of Teachers to Conduct Oral Assessments

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This paper represents an attempt to achieve several objectives. The major objective is to report on work which has recently been completed. Subsidiary objectives include reference to the historical progression of microteaching within the educational establishments of the British Isles, and to the identification of some areas worthy of future exploration. Therefore the paper is divided into three sections. The first contains brief mention of the historical perspectives, the second is the major research report and the third looks to the future.

SECTION ONE

In parallel with the dissatisfaction expressed in several countries in the 1960s about the training courses offered to intending teachers, teacher trainers in the United Kingdom were voicing their dissent.

The mismatch between theoretical and practical course elements was summarized by Morrison and McIntrye in 1969.

> *"Much of the instruction given (on teaching methods) is in the form of a series of practical hints and suggestions which, being pragmatically justified, are not conceptually related to one another... The problem is that theoretical courses are not about teaching and that methods courses, which* ***are*** *about teaching, have no theoretical foundations."*
>
> *Morrison and McIntyre, 1969.*

The flexibility of microteaching methodologies was quickly recognised in Great Britain, and although the standard procedure appeared to contain eight stages, many teacher trainers started to design systems which contained several modifications in order to allow the "so called microteaching" to fit in with the teacher training system in operation in their own institution. Some teacher trainers would say that they were operating microteaching when, in fact, they were merely providing video-taped feedback.

It seemed that British colleges and universities were much slower to introduce microteaching than their contemporaries in the United States, and the two newer universities of Stirling and Ulster adopted a proselytising role. In 1968, the first B.A. degree courses with secondary school teaching qualifications were offered at Stirling. They contained microteaching components. Professor Elizabeth Perrott, the Head of the Education Department, obtained research funds in order to evaluate the contribution which microteaching could make to the pre-service training of teachers. The results of this research were published in McIntrye, MacLeod and Griffiths (1977).

Betweeen 1968 and 1978, many discussions took place upon what appeared to be 'fundamentals'. Questions concerning the advisability of modelling the skill to be practised later, the advantages and disadvantages of providing individual or group feedback sessions, the necessity of putting every student through a reteach, the housing of activities in specific microteaching suites of rooms, the definition and measurement of specific teaching skills were debated. Many centres of excellence started to grow

up in specific institutions and mainly grouped around specific individuals, but the Stirling.University research project provided the main source of worthwhile papers.

The centres of excellence seemed to develop around enthusiastic individuals, and specific institutions gained reputations for particular expertise or ability to offer advice. Individuals such as McAleese in Aberdeen, Brown in Nottingham, Kelly in Coventry, Hargie in Northern Ireland, Griffiths in Manchester, Elizabeth Perrott at Lancaster, and Oakley in Southampton all seemed to have expertise which they were willing to share.

The modification and diversification of the original ideas continued. The thirst for papers and information was reflected by the publishing of a selected survey of microteaching by McAleese and Unwin in the Journal of Programmed Learning and Educational Technology in 1971. In 1974, a conference was held at Bulmershe College of Higher Education, and the papers presented were subsequently published by the Association for Educational and Training Technology, (Trott, 1974).. Some three years later, the papers were updated and published as Selected Microteaching Conference Papers (Trott, 1977a).

One of the major British books on microteaching was published in 1975, it was entitled *Microteaching: A Programme of Teaching Skills*, and the author was George Brown. This book was greeted with acclaim and is still used in many institutions today.

Also in 1975, Hargie and Maidment conducted a survey of institutions in the British Isles where it was claimed that microteaching was used, and published their findings in 1979. They used as a target 220 institutions and received 177 replies which included colleges, polytechnics and universities. Of these 138 were active or intended to become active in the field.

However, a year earlier, Ivan Falus had surveyed developments in the British Isles. He found that at least thirty-five to forty institutions were using microteaching, that systematic observation was used extensively, that the aspect of modelling was poorly developed, and that one in five of the responding institutions used microteaching to train in-service teachers.

At about the same time, UNESCO (1974) and OECD (1975) started to take an interest in this development, and the British Council started to employ 'experts' to visit developing countries to help in the training of personnel able to innovate microteaching methodologies. Between this time and the present day seminars have been held under British Council auspices in Malaysia, India, Thailand, Spain and various African countries. In order to cope with the unreliability and unavailablility of CCTV equipment in some countries, an approach designated the 'low technology' was developed. In moments of stress it was redesignated the 'no technology' approach. Members of staff at Stirling and Bulmershe pioneered this development and produced handbooks for countries developing microteaching.

In 1982, the International Educational Technology Conference was held at Bulmershe College, and an attempt was made to invite speakers to reveal their latest ideas on the application of microteaching. Eminent speakers including Arye Perlberg and George Leith were invited and the key-note address on the multi-application of microteaching was given by Ray McAleese. MacAleese himself, in company with Brown and others, was using the methodolgy to train university lecturers. Rodenburg-Smit and his colleagues from Eindhoven reported their developments concerning theme-centred sessions and the use of a computer-assisted observation feedback. McCarthey and Easby from the R.A.F. School of Education and Training Support gave details of their instructor training in the skills of briefing, monitoring and debriefing. From the university of Amsterdam, Riem Buter presented an excellent paper upon the optimalization of peer group microteaching when used in a training laboratory. (Trott, Strongman and Giddins, 1983).

Further micro-computer assisted innovations were suggested by Jack Oakley from the La Sainte Union College in Southampton as recently as 1987. In a conference paper he described the ability to add a wide range of comments to an on-going micro-lesson, and the development of what he calls the 'octopus'. This is a mechanism consisting of a network of keypads feeding opinions and tallies into a micro-computer which subsequently totals and analyses these inputs (Percival, F., Craig, D. and Buglass, D., 1987). Both innovations were seen as additions helpful in providing feedback for student teachers.

Thus we are able to summarize the continuing development of the spread of the use of microteaching in the same way as Arye Perlberg did in 1976; by saying that it is widely accepted, it is no longer an innovation, and yet the methodologies are still being applied to various learning/training situations. It is probably also true to say that political pressures have so influenced the training of British teachers recently, that teacher trainers have been forced to adopt training techniques which are dated and less effective than those based upon microteaching.

SECTION TWO

This research report details an investigation which was concerned with the application of microteaching techniques to the training of oral interviewers. It was designed to measure the efficiency of a training programme compared with a sensitisation programme, to examine the methodologies associated with microteaching when they are applied to specific in-service teacher training, and to draw conclusions and make recommendations about ways in which oral assessors may be trained in the future.

ORAL ASSESSMENT

In Britain, the Certificate of Secondary Education was established in 1962, and there were three modes associated with this examination. They were called modes 1, 2, and 3 and varied from the first, in which the candidate was examined by the use of tests set by the Board, through the second, which was 'mixed mode', to the third, in which the candidate was assessed by the use of tests set by the school and moderated by the Board. The mode 3 form allowed the classroom teacher to choose the type of assessment he considered to be most appropriate.

The C.S.E. Boards sought to test a percentage of the population which extended from the most intelligent to those of below average intelligence. Many educationists suggested that less able children might find it easier to respond in the oral mode than to express their ideas in writing.

> *"A considerable number of teachers believe that some children can achieve a higher standard than is suggested by their written work."*
>
> *Clarke, 1980*

MICROTEACHING

Microteaching is frequently described as "a scaled-down teaching encounter, scaled down in terms of class size, lesson length, and teaching complexity" (McAleese and Unwin, 1971). Some practitioners prefer the Allen and Eve (1968) definition of "a system of controlled practice that makes it possible to concentrate upon specific teaching behaviour and to practise teaching under controlled conditions" Microteaching, or perhaps more accurately microtraining, is a method of dividing the complex skills of teaching into manageable skills and sub-skills which are then identified, practised and measured. Many teacher training institutions and universities in the United Kingdom have allowed microteaching to become an integral part of teacher education courses (Hargie and Maidment, 1979).

PILOT STUDY

In 1979, a small pilot study was undertaken in order to establish base lines in terms of the then current practices and to examine the problems of mounting experimental research based upon the microteaching methodologies, using microteaching style measuring instruments. Some seven volunteer teachers were involved, several skills were identified,

preliminary concerns were discussed and social studies pupils were selected as subjects.

One of the most important concepts which was accepted in the planning of the C.S.E. examinations was that of the dual role of the teacher, who was expected to be both tutor and examiner. Oral examinations and mock oral examinations are very time-consuming, arrangements within the school timetable have to be made. Thus, it seemed worthwhile to examine the time taken to conduct C.S.E. orals.

From early enquiries it seemed that in some schools orals were conducted by pairs of teachers, and in others one teacher was responsible for the activity. Thus, little standardisation of practice seemed to exist.

The second area for exploration was that of interruptions. When setting up the pilot study, there appeared to be a high frequency of prompting by the examiner.

Reinforcement was selected as the third area of investigation. The techniques associated with the work of Thorndike (1911, 1931), and Skinner (1953, 1968 and 1969) are often advocated for use in school situations. The work of Flanders and Simon (1970) and Rosenshine (1971) indicated that pupil achievement and positive attitudes could be furthered by the use of praise and corrective feedback. Additionally, Dunkin and Biddle (1974) suggested that teachers used praise sparingly in standard classrooms

There seemed to be a problem associated with the use of positive reinforcement. The literature on the topic indicated that reinforcement seemed to be valid only if it was realistic and accepted by the pupil. Thus it appeared to be possible for the examiner to "overload" the interviewee with praise.

The fourth and final area of investigation was that of questioning. Many teachers saw this technique as being of great importance. Thus, an analysis of the types and frequency of questions was made. It appeared obvious that if the examiner failed to ask stimulating and penetrating questions the interviewee had little chance to show what he or she knew.

PILOT STUDY PROCEDURES

The teachers involved all brought to Bulmershe College pupils known to them from their schools. All pupils were in the fifth year of a comprehensive school, and were following C.S.E. mode 3 courses in Social Studies. The selection processes operated in comprehensive schools indicated that the pupils were all of a similar ability.

In order to minimise the unsettling effects of the cameras and the bright lights, specific efforts were made to give the pupils and teachers time to become accustomed to the studio before the recording began; in addition, a researcher explained the sequence of future events. Instructions to teacher interviewers mentioned adherence to reality as far as was possible, adherence to examination procedures, and listed those elements which could be changed if desired, such as the seating arrangements.
Video-tape recordings were made with the pupil sitting almost opposite the teacher. A low coffee table was situated between the two identical chairs

Clip-on microphones were used by both participants. Three cameras were used. Two were fixed to shoot the participants, and the third was used to provide a "safe" shot of both teacher and pupil. A split-screen effect was used in recording the interviews in order to record all signals. This technique had been pioneered at Bulmershe in the years after 1972, when several different alternatives had been tried out. (Trott, 1977)

As soon as the recording had ended, teachers and pupils were allowed to see the replay. They were given the opportunity to withhold permission for researchers to use the tape; in fact, none did. Generally, reactions were favourable, teachers obtained feedback and pupils were able to be constructively critical whilst enjoying their own performance.

PILOT STUDY RESULTS

1 The structure of the interview.

A total of nineteen videotapes were examined. Every teacher conducted an introduction of some sort. The shortest was 7 seconds in length and the longest was 20 seconds. The average length was approximately 14 seconds, whilst the most popular length was 12 seconds.

There were wide differences between the lengths of the pupils' prepared talks. Every pupil introduced his or her topic. Examples to show the wide range are included below:-

	Length of pupils' prepared talk		Length of Interview		% of interview taken by pupils' prepared talk
	mins	secs	mins	secs	
A	0	11	6	00	3.1
B	4	51	11	30	42.2
C	0	07	8	12	1.4
D	3	05	5	09	59.9
E	8	57	10	02	89.2

Length of pupil prepared talk and length of interview.

Similarly, there were wide differences between the total amount of pupil talk. An analysis of the same video-tapes is included below.1

1

	Pupil talk		Teacher talk		Interview length	
	mins	secs	mins	secs	mins	secs
A	2	06	3	54	6	00
B	7	23	4	07	11	30
C	5	56	2	16	8	12
D	3	39	1	30	5	09
E	9	22	0	40	10	02

Examples comparing the lengths of pupil talk, teacher talk and total interview time.

2. The type and frequency of interruptions

In tapes numbered 1 to 7, interruptions were seen to be frequent and to consist in the main of either repetition of the pupil's answer or further question asking. However, an analysis of the later tapes showed few interruptions and that even these did not appear to have a negative effect upon the pupils. Thus this area of the investigation proved to be of little interest and no further consideration was given to it.

3....The use of reinforcement

Probably the most interesting finding from this pilot study was the low incidence of positive reinforcement. Very few pupil contributions received praise which was usually delivered in a mixture of verbal, non-verbal (a smile, nod or gesture) and extra-verbal("hmm", "mm") manner (Brown, 1975). In all nineteen tapes there was frequent use of extra-verbal responses without an accompanying smile or other kind of non-verbal reinforcement. The observable effect was a series of very neutral interviews.

4. Questioning

Lower order questions were not examined, higher order questions were recorded.

The teachers involved in the first seven video-tapes, asked questions in quick succession, sometimes making it difficult for the pupil to respond. The other teachers used pauses, and were more prepared to allow 'thinking time'.

The numbers of analysis, synthesis and evaluation questions were totalled. A total of forty-eight synthesis questions were asked, giving an average of about 2.5 per interview. Only two synthesis questions were asked in the nineteen interviews. Fifty-nine evaluation questions were asked, giving an average of 3.1 per interview.

THE PILOT STUDY - IMPLICATIONS AND QUESTIONS

The pilot study indicated that, in the area of social studies alone, wide inconsistencies existed. Henry Macintosh, the Secretary of the Southern Regional Examination Board, viewed the tapes and volunteered the opinion that they were typical of current practice.

Pauses after the pupil had answered, and frequent repetition of pupil answers indicated that either interviwers needed time to think of the next question or that they needed to prepare very thoroughly in advance.

Interviewers sometimes used the interview to teach, correcting their pupils' wrong answers. There was a suggestion that teacher-pupil relationships before the interview had an effect on teacher and pupil performance.

1. Structure

Is it possible to advise teachers on the structure of an interview? Can some guidance be given to help teachers prepare questions or sections of an interview in advance? How important are the beginning, the development and the end of an interview? How many teachers should be present at an interview? Can a one-to-one situation be structured so that the pupil feels on more equal terms?

2. Reinforcement

Is there an optimum amount of reinforcement which can be offered during an interview? How might teachers be helped to become aware of their reinforcement techniques? Is it possible to train teachers in the use of reinforcement techniques which are perceived by the pupils to be realistic and valid?

3. Attending behaviour

Is a teacher's overt demonstration that he is present and eagerly listening to the pupil related to positive reinforcement and the establishment of rapport? Is it possible to help teachers to establish rapport? How important is eye contact in an oral assessment?

4. Pauses

How are pauses used? Are there different types of pause?

5. Questioning

Questioning in the oral situation appears to gain in importance, is not used as a disciplinary or control device, but perhaps needs careful preparation and sequence. Can teachers be helped to improve their oral questioning skills? Should teachers be encouraged to ask higher order questions even if the interviewee is not expected to be able to answer them?

Thus, there seemed a need to research in greater detail the use of microteaching methodologies as a means of providing some guidance in the preparation of teachers as oral assessors.

BACKGROUND SOURCES

In order to gain further background information concerning the relevant areas, many previous research reports, articles and books were consulted. It is not the purpose of this paper to review such literature, but it is interesting to note the areas from which such information was sought.

1. A review of assessment procedures was made. It included a study of the links between written and oral questions, a report on the pupil abilities usually sought by oral interview, a comparison between the merits of internal examiners (pupils' own teachers) and external examiners (experts unknown to the pupils).

2. Indications concerning the process were gathered from a study of the ways in which microteaching had been used with in-service teachers, from reports of the clinical supervision model used in U.S.A. and Australia, and from the research literature dealing with the role of the microteaching supervisor.

3. Research into the specific skills of introduction, explaining, variation, questioning, reinforcement, closure, and the use of non-verbal and extra-verbal skills was reviewed.

4. Indications of particular techniques associated with dyadic interviews were sought from the research into counsellor training; and the specific skills of introduction, closure and questioning in counselling interviews were studied.

DESIGN AND IMPLEMENTATION OF THE PRIMARY INVESTIGATION

The questions raised by the pilot study involved the areas of structure, reinforcement, pauses and questioning; the areas high-lighted by the study of the research literature presented these three together with the process indications from microtraining and the specific skills involved in the training of oral interviewers.

One of the most worthwhile subsidiary outcomes appeared to be the construction and trial of teacher training materials. It seemed from advance information that in the proposals for the implementation of the General Certificate of Secondary Education in 1988, there were likely to be large increases in the amount of coursework to be undertaken by pupils, and that much of this coursework would be examined orally.

The co-operation of a large number of teachers was not certain; the educational 'climate' was worsening and teachers were taking industrial action which necessitated a 'no cover' rule for absent colleagues in many secondary schools, and teacher unions were suggesting anything connected with the proposed examination changes as a reasonable target for action.

Unlike many research studies, this investigation was not expected to cover a long time period, and no attempt was made to examine long-term retention factors.

Additionally, no attempt was made to incorporate a control group in the accepted sense. It was felt by the researcher and the expert panel that many teachers had been conducting oral assessment interviews for some while, consequently they would have developed techniques which they considered as satisfactory and which they would be unlikely to change unless they were specifically motivated to do so.

After consultation with the expert panel, it was decided to accept a two group design, to compare two groups of experienced teachers, one which would receive a microteaching/microtraining style of treatment, the other a 'guidelines-only' treatment.

The argument for such a 'guidelines-only' treatment was, that after a sensitisation programme to make teachers aware of assessment techniques, the teachers would be able to adopt such techniques readily.

Rather than a formal pre-test - post-test design, it was decided to divide the fairly lengthy training materials into two sets of guidelines and to adopt a repeated measures design.

Thus, the design of the investigation may be summarised as follows:

Group A:

T_1 ⇒ G-lines ⇒ M'teaching ⇒ T_2 ⇒ G-lines ⇒ M'teaching ⇒ T_3

Group B:

T_1 ⇒ G-lines ⇒ T_2 ⇒ G-lines ⇒ T_3

The Teacher-Subjects

Little restriction was placed upon the selection of subjects for this investigation. Probably the only qualifications necessary to take part were firstly a willingness to do so; secondly, the teacher had to be involved in conducting C.S.E. orals with a class from his or her own school; and thirdly, the teacher needed to be able to travel to Reading with five pupils, on three or five occasions. The only restriction upon academic subject was the exclusion of modern languages on the grounds that such subjects were examined for grammatical and vocabulary elements as well as content. It was thought that this 'double testing' made them rather different.

The Guidelines

These were designed by the researcher in collaboration with the expert panel. Several drafts were prepared of each version and then modified by rewriting.

In order to include the feedback instruments and the information in preparation for the microtraining, two sets of guidelines were written. The guidelines for the 'guidelines-only' groups were in effect a 'basic' kit. The guidelines received by the microteaching groups contained specifically written sections on the procedures associated with microteaching, and specifically designed appraisal instruments. These instruments were intended to help provide feedback in the microtraining situation; they contained little rater inference being in the main tallies of previously identified behaviours, and occasionally, questions requiring positive or negative answers. Otherwise these guidelines contained the same information as guidelines 1 and 2.

Guideline 1 was particularly concerned with planning, conduct, variation, procedural techniques, and non-verbal and extra-verbal techniques. Guideline 2 referred to types and levels of questions, questioning techniques, reinforcment, closure and assessment.

Procedures

Teachers who expressed interest, were given outline details of their role and proceded to test 1. This test acted as a pre-test, and it enabled the teachers to experience the studios, and more particularly, the lights and cameras. No teacher was permitted to receive verbal or visual feedback from the first test.

On each test and microtraining occasion, the pupils involved were given the same pre-experience introduction, which did not use exactly the same words on every occasion, but which was designed to reduce pupil anxiety and to increase pupil involvement. Participants were encouraged to continue for as long as they wished. No use was made of video-taped, transcript or live models of the guidance skills.

The Microtraining Groups

T_1 ⇒ Guidelines 1 ⇒ M/training ⇒ T_2 ⇒ Guidelines 2 ⇒ M/training ⇒ T_3

After the pre-test session, subjects were given or sent the Guidelines 1 document. They were encouraged to give themselves a few days to read and digest it and then attend for a microtraining session, then, after a short while - about a week - they would be expected to attend with their pupils for test 2, and so on. In the microteaching sessions, each interview was used by the teacher to practice selected aspects of interviewing skill. Teachers were given feedback by a supervisor from the appraisal instrument, and from the C.C.T.V. recording after each interview; there were no reteach sessions.

The Guidelines-Only Groups

$T_1 \Rightarrow$ Guidelines 1 $\Rightarrow T_2 \Rightarrow$ Guidelines 2 $\Rightarrow T_3$

After the pre-test session, the teacher subjects were given or sent the guidelines. They were encouraged to give themselves a few days to read and digest it before they telephoned to arrange to visit the college with their pupils for test 2, and so on.

Teacher Withdrawal

Unfortunately, after the investigation had begun, the co-operation from teachers became even more problematical. Industrial action was widespread, even the keen teachers knew that if they attended for a microtraining or test session, their classes would be sent home, and so they found it difficult to continue their involvement. Also, by chance, more teachers dropped out from the 'guidelines' group than from the microtraining group; thus, of the twenty teachers who completed the three tests, twelve were in the microtraining group, and eight were in the 'guidelines-only' group.

The Raters

It was fortunate that some of the raters from the pilot study were available, and that all members of the expert panel volunteered to help complete the rating of video-tapes. In all, there were six raters, grouped on occasions in various combinations of three at a time. They rated using five instruments, the General Rating Scheme, Instrument 1 - Planning, Instrument 2 - Preliminary Concerns, Instrument 6 - Conclusion, and Instrument 7 - Assessment.

Over two days were spent in rater training. Even though all raters were very experienced teachers (10+ years), and all six had had experience of C.S.E. moderation, it was felt that rater reliability necessitated common interpretations of the factors being observed. Video-tapes of teachers who had dropped out were used for this purpose.

As different procedure was adopted for instruments 3, 4 and 5. These instruments were tally counts of specific behaviour, and were undertaken by three observers.

The Video-recording

Procedure for the video-recording repeated the sequences and techniques described earlier in the account of the pilot study. Split-screen

recording was adopted for all episodes all the time except for a very rare cut-away to an establishing shot, or when the teacher and pupil were examining a book, report or object together.

After the video-recordings were complete, the tapes were placed in random order by a research assistant. Thus both raters and recorders viewed tapes 'blind', not knowing to which group the teachers belonged, or on what occasion the tapes had been video-recorded.

The Instruments

The instruments were designed in the accepted microtraining tradition, containing rating scales and frequency counts. A list is given below indicating the type of measurement associated with each instrument.

General Rating Scheme

1.	Planning	Rating 1 - 6
2.	Preliminary Concerns	Rating 1 - 6
3.	Conduct of Interview	Rating 1 - 6
4.	Questioning	Rating 1 - 6
5.	Reinforcement	Rating 1 - 6
6.	Conclusion	Rating 1 - 6
7.	Assessment	Rating 1 - 6

Instrument Number 1 - Planning		Yes/No
Instrument Number 2 - Preliminary Concerns		Yes/No
Instrument Number 3 - Conduct of the Interview		
Sub-skill Cluster A (Stimulus Variation)		Tally
Sub-skill Cluster B (Procedural Techniques)		Tally
Sub-skill Cluster C (Non-verbal and extra verbal)		Tally
Interviewer talk time	Seconds	
Total interview time	Seconds	
Instrument Number 4 - Questioning		
Sub-skill Cluster A (Type of Question)		Tally
Sub-skill Cluster B (Positive Techniques)		Tally
Sub-skill Cluster C (Negative Techniques)		Tally
Instrument Number 5 - Reinforcement		Tally
Instrument Number 6 - Conclusion		Yes/No
Instrument Number 7 - Assessment		Yes/No (except student grade)

The Rating Procedure

The rating procedure adopted for the videotapes recorded on the three test occasions went as planned, except that it soon became evident that the amount of time necessary appeared to be exorbitant. This necessitated some kind of reduction in the number of tapes rated. It was decided that the number of interviews from each teacher to be rated would be reduced from five to three.

As raters or recorders completed their viewing of the tapes, results were entered onto a computer disc, so that each tape had the same result spread sheet. From this computer record, results could be collected in different ways and then subjected to statistical analysis.

The Objectives of the Investigation

The objectives of this investigation were concerned with the performance and changes in performance of the teacher subjects, in seven selected areas featured in the guidelines and microtraining programmes. The investigation was designed so that a direct comparison between 'microtraining' and 'guidelines-only' treatments might be made.

A subsidiary question as to the general effectiveness of the guidelines might be considered, and subsidiary comparisons might be made between teachers of different subjects, or cross-sex interviews, where teacher and pupil were of different sex.

Exploratory objectives might include an examination of the 'highly-rated' teachers with 'lowly-rated' teachers to try to establish the major characteristics of a model assessment interview; or an examination of specific elements such as the 'mirror' influence that interviewer non-verbal behaviour has on interviewee non-verbal behaviour.

THE MAIN FINDINGS OF THE INVESTIGATION

The Measurement of Rater Reliability

Raters were asked to use the general rating scheme in order to establish measurements of interviewer performance, and instruments 1, 2, 6 and 7 to indicated evidence of the presence or absence of selected behaviours.

Training was given to the raters in order to ensure that they were interpreting the instruments in the same way. At the end of the training period, which lasted longer than two days, two methods of measuring rater reliability were tried, but neither seemed to reflect accurately what seemed to be reasonably coherent views.

At this stage, rating began. The basic data indicated that in the five tapes rated after training on the first day, the 105 possible agreements between raters had produced, 45 exact agreements and 41 which differed by one mark. Thus, there were 86/105 (81.9%) acceptable agreements.

The final attempt to find a system which reflected with some accuracy the mathematical 'sense' of the basic figures was successful in that Kendall's Coefficient of Concordance - W was calculated (Siegel, 1956). An alternative calculation for cases where N>7 was suggested by Maxwell (1971) and this was used. Rater reliability was examined in the same random order and clusters of tapes as had been used during recording. Thus, fifteen occasions produced the following figures.

Occasion	1	2	3	4	5	6	7	8
	.378	.519	.457	.704	.718	.635	.895	.535

	9	10	11	12	13	14	15
	.816	.828	.630	.667	.778	.697	.892

Rater reliability coefficients

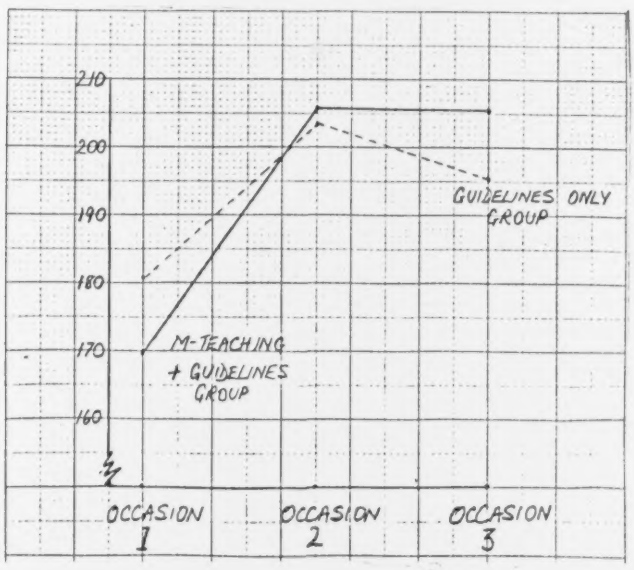
The Results of the Primary Investigation

A treatments by repeated measurement analysis was carried out (following Winer, 1970). The results are summarised below in the table.

Source	SS	df	MS	F	P
Between groups	9.6 x .75 7.2	1	7.20	0.0122	NS
Error(b)	10630.775 10630.7	18	590.59		
Between tests	9.6 x 208.04 1997.18	6	332.86	2.44	.001
Between occas	9.6 x 145.14 1393.34	2	696.61	26.04	.001
Grps x tests	9.6 x 11.15 107.04	6	17.84	.667	NS
Grps x occas	9.6 x 14.13 135.65	2	67.82	2.54	.1
Test x occas	9.6 x 44.63 428.45	12	35.70	1.33	.2
Grpsxtstsxocc	9.6 x 32.06 307.78	12	25.65	0.96	NS
Error within	9630.125 9630.12	360	26.75		
		419			

Table of Analysis of Variance

As can be seen from the figure below, the means of the groups followed a disordinal path.



Mean rating scores of groups on three tests

Follow-up tests were made of the differences between means on the first, second and third occasions, between tests, and the groups by occasions interaction. The t value for occasion 1 compared with occasions 2 and 3 was found to be 2.31 with 420 degrees of freedom giving a result significant at the .01 level. Occasions 2 and 3 when compared revealed a t value of -0.28, which was not significant. Occasions 2 and 3 were significantly better than occasion 1 ($p<.025$).

In order to follow-up the between-tests result, a gap test was conducted. The means of tests were ranked and the differences compared. It was found that Reinforcement (31.35), Assessment (30.90), Conduct of Interview (30.25) and Questioning (29.70) were not significantly different from each other, but were significantly different from Planning (26.45), Preliminary Concerns (26.30) and Conclusion (26.70), which in turn were not significantly different from each other.

The follow-up tests on the groups-by-occasions interaction showed the following results:-

Group 1: occasion 1 versus occasions 2 and 3	t = 2.12	SIG [.001]
Group 1: occasion 2 versus occasion 3	t = -0.18	NS
Group 2: occasion 1 versus occasions 2 and 3	t = 1.15	NS
Group 2: occasion 2 versus occasion 3	t = -0.37	NS

Follow up tests results - Groups-by-Occasions Interaction

Perhaps one of the first conclusions to be drawn from these findings is that the rating method used to evaluate video-tapes is sensitive enough to distinguish between groups and performances.

The second conclusion must concern the influence of the guidelines on both groups, which were seen to be very effective on the first occasion but not so effective on the second.

The third concerns the success of microtraining in firstly producing gains in planning, preliminary concerns and conduct after guidelines and treatment 1, and in addition causing the 'transfer of training' gains in all the other elements of questioning, reinforcement, conclusion and assessment.

A fourth conclusion concerns the apparent retention effect of the microtraining treatment. It was clear that the microteaching group largely maintained the improvement made between occasion one and occasion two, whereas the other group allowed performance to decrease slightly.

The evidence provided by the group means scores raised the question, of teacher ability to change or concentrate upon different interview techniques while remembering techniques learned on the previous occasion. Perhaps there is an effect somewhat akin to the 'feedback overload' identified by Wragg (1972), which inhibits the learning of new techniques until recently learned techniques have been absorbed into the behavioural repertoire.

Detailed analysis of each component was completed next. No time to discuss such detail is available here, but example sections are included.

Example 1 - **Positive reinforcement clusters.**

This terminology does not appear in other research and is related to the number of positive reinforcements awarded by a teacher to one pupil comment question. One might expect that most teachers would offer one reinforcement at most to a pupil comment. During the pilot study, and during the video-recording it became apparent that several teachers habitually offered more than one reinforcement. Usually, multiple reinforcements were combinations of verbal, non-verbal and extra verbal.

As a side experiment, the numbers of reinforcements were recorded, thus in the tables below single, double, and treble reinforcements are shown. Some forty-six quadruple reinforcements were observed from fifteen of the twenty teachers, and so the concerns expressed earlier about 'reinforcement overload' were found to be supported.

	Occasion 1	Occasion 2	Occasion 3	
Group 1 [MT]	1140	1129	1131	[n=12]
Group 2 [GO]	592	712	701	[n= 8]

Number of single reinforcements

	Occasion 1	Occasion 2	Occasion 3	
Group 1 [MT]	356	550	597	[n=12]
Group 2 [GO]	182	166	171	[n= 8]

Number of double reinforcements

	Occasion 1	Occasion 2	Occasion 3	
Group 1 [MT]	53	60	70	[n=12]
Group 2 [GO]	14	26	13	[n= 8]

Number of triple reinforcements

No obvious pattern emerges, but it can be said that apparently about a third of the reinforcements offered by teachers to pupils in oral assessment interviews contain more than one element. Thus, the teacher might say more frequently, "Yes, good," or "That is interesting," whilst smiling and nodding the head. Further reseach might reveal the various combinations of non-verbal, extra-verbal and verbal reinforcements which are the most popular or indeed, considered the most acceptable by pupils.

Example 2

From instrument no.4 on questioning, the ratios of lower to middle to higher order questions asked by all teachers were approximately 10:5:1 on the first occasion. By the final occasion they were 6:4.5:1, indicating a

decrease in lower order and marked increases in middle and higher order questions. Probing was adopted as a technique by only three teachers, and the number of prompts increased. In the negative sub-skill cluster, group 1 decreased teacher ambiguities and showed a marked reduction in teacher repetition of pupil answers and teacher use of multiple questions, whereas group 2 increased the number of teacher ambiguities and teacher repetition of pupil answers.

IMPLICATIONS FOR IN-SERVICE TRAINING

The implications of the detailed findings pointed towards an urgent need for in-service training, using microteaching methods, of teachers who conduct oral assessments. Further research into the design and effects of such training and into the measurement and recording of interviewing skills was seen to be needed.

SUBSIDIARY AND EXPLORATORY FINDINGS

Section One - Current Practice as Indicated by Occasion One

In order to examine the techniques and trends in interviewing currently being used by teachers, the data associated with the two groups in the main (primary) investigation was collected together. The sample of twenty teachers was not selected as representative in any way, except that teachers of modern languages were eliminated for the reasons mentioned earlier.

Planning

In 85% of the interviews, the raters found no evidence to suggest that the candidate's work had been inspected. In 80% the interviewers were judged to have been aware of the precise interview topic, and in 65% it was evident that the interview had been planned. Results from the specific and general objectives questions were low; in perhaps 43.3% of the interviews, there was evidence to suggest that specific objectives had been identified earlier, and similar evidence concerning general objectives was present in 35%.

Evidence concerning the interview topic was most welcome, the rater reports of previous planning too was positive. Not so positive were the observed findings about the inspection of work and revision of objectives.

Preliminary Concerns

Not a single interviewer introduced himself.and in only 6% of interviews did the interviewer explain his position or indicate the purpose of the interview. Encouraging observations from this appraisal instrument were the 56.67% of interviews in which the teacher used the pupil's name, and the 60% in which a brief 'ice-breaker' was used.

Conduct of the Interview - Cluster A Stimulus Variation

Few (2.75 on average) changes in voice modulation and 3.47 changes in speech rate per interview were observed. There were 4.83 changes in interviewer position. These figures have little meaning if they are not compared with others, and can only serve to indicate general trends. The actual pauses and potential pauses were seen to be scarce.

Conduct of the Interview - Cluster B Procedural Techniques

On fewer than two occasions per interview, the teacher followed the pupil's indicated area of choice, thus many of the interviews were completely teacher-led. The use of advance organisers too proved disappointing in that teachers used less than one per interview on average. Of the possibly negative techniques, reading or writing notes was the most prolific, pupil replies were repeated on average more than four times per interview, and at least one question was repeated. Pupils were interrupted on average once per interview, but all other negative procedural techniques were used infrequently.

Timing

Earlier mention has been made of the dyadic interaction as measured by the amount of time which one participant uses in speech. As a measure of the current trend in teacher/pupil interviews, the twenty teachers involved in this study talked for about 22.8% of the interview time. A total of sixteen interviews from the sixty recorded on the first occasion revealed teacher talk times of more than 50%. The average length of interviewer talk was 2.27 minutes, and the average length of the whole interview was 9.92 minutes.

Conduct of the Interview - Cluster C Non-verbal and extra verbal

A surprising number of gestures was recorded on this first occasion: 24 or 25 an interview. Similarly, manipulations of self and objects averaged more frequently than might have been expected at about 5 an interview. About 17 utterances and about 7 eye-contact breaks were recorded per interview.

All in all, the conduct of the interviews was very much as expected. Small surprises, even disappointments were seen, but the general level of techniques used followed closely the patterns established in the pilot study.

Questioning - Cluster A Type of Question

On this first occasion the ratio of lower to middle to higher order questions was approximately 10:5:1. Two areas of concern can then be identified immediately. Firstly, the preponderance of lower order questions, and secondly the sparse occurrence of higher order questions.

In comparing the numbers of open and closed questions asked, it can be stated that between eleven and twelve open questions and between 16 and 17 closed questions were asked on average during each interview.

Questioning - Cluster B Positive Techniques

In general terms, all four of these sub-skills, rephrases, probes, prompts, and pauses following questions, were used about twice in each interview.

Questioning - Cluster C Negative Techniques

Very few ambiguities and questions which used inappropriate language were recorded. Multiple questions occurred more frequently at between one and two per session, and teacher repetition of pupil answers was recorded even more often at a level of between four and five per interview.

Again, these findings reflect what had been expected from the analysis of the pilot study recordings. The question ratio of lower to middle to higher is one which seems to deserve some attention. As noted earlier, a marked change was brought about during the course of the study, but perhaps an added indication might be interestingly mentioned at this point. During the microteaching sessions, personnel involved in the study became very conscious of the ratio used by specific teachers, and so tried to establish the order of ratio used by teachers after they had been made aware of the types of question and of particular techniques which they

might use to change the ratio. It became apparent that the ratio which can be attained and used by teachers when they have gained some awareness of the techniques is of the order of 5:3:1.

Reinforcement

Verbal and extra verbal positive reinforcement was sub-divided into verbal encouragement, verbal acceptance, extra verbal acceptance and use of the answer. During the 60 interviews, 980 extra verbal reinforcers, 674 verbal acceptances, 336 times when an answer was used, and 77 verbal encouragements were recorded. Therefore it might be argued that extra verbal reinforcements are most easy to use, verbal acceptance is the next easiest and so on. Student teachers find difficulty in offering verbal encouragements (Trott, 1977b); it would appear that in-service teachers find a similar difficulty.

In the non-verbal sub-division, head nods were the most frequent, smiles were used fairly frequently, and non-verbal acceptance infrequently. The ratio of these three was approximately 10:4:1.

Verbal negative reinforcement was used in six of the 60 tapes, and pupil answers were repeated on average between four and five times an interview. More than ten momentary eye-contact breaks, and exactly 5 definite eye-contact breaks were recorded on average in the interviews. The incidence of disinterest - for example, teachers looking at watches or away from the candidate at the surroundings - were also quite high, averaging out at almost 4 an interview.

In the final tally which recorded the numbers of reinforcements offered together, it was revealed that most reinforcements were offered as single items, there were about 30 of these per interview. However, there were some double reinforcements offered, amounting to about 9 per interview on average and, again on average, there was about one triple reinforcement.

To summarise, in the use of reinforcement, extra verbal sounds and head nods predominated, and many negative techniques were in evidence.

Conclusion

In only two of the 60 interviews were the candidates asked if they had any questions or comments. In approximately two-thirds of the interviews, candidates were thanked and verbal closure markers were used. In about one third of the interviews, social courtesies and non-verbal closure markers were observed.

Assessment

In assessment the "two-thirds rule" reappeared. In about two thirds of the interviews, there were judged to be adequate opportunities for the candidates to achieve specific and general interview objectives.

In general, much was found which supported the findings of the pilot study, much more detail about the use of selected techniques was available, many of the techniques subsequently recommended in the guidelines were found to be under-used, and many techniques which might be considered negative were observed.

Section Two - Teachers of English Against the Rest

In this second subsidary section, the findings from the original study have been reorganised to enable a comparison between teachers of English and teachers of other subjects to be made. Ratings and recordings from the three occasions have been averaged in order to facilitate the comparison. It might be argued that teachers of English could be more expert in the use of assessment techniques than other teachers. In this section, that argument will be examined.

If the argument is supported, the kinds of evidence which will be apparent might well include the overall superiority of teachers of English in the general rating scheme, and in the skills associated with planning, preliminary concerns, conduct, questioning, reinforcement, conclusion and assessment.

General Rating Scheme Results

As can be seen from the table below, the teachers of other subjects [n=8] were rated as more proficient in every sub-skill area, and significantly [t= 4.427 > 3.012, p > .01] better than the teachers of English [n=12].

	English	Other subjects
Planning	2.66	3.21
Preliminary Concerns	2.71	2.74
Conduct of Interview	3.22	3.29
Questioning	3.13	3.29
Reinforcement	3.31	3.51
Conclusion	2.62	2.76
Assessment	3.30	3.31

Mean scores - General Rating Scheme : English versus Other Subjects

Similarly, in all the elements associated with planning, the teachers of subjects other than English were rated superior. This was particularly obvious in the perceived evidence to suggest that specific objectives had been identified earlier.

The trend was not continued in preliminary concerns. Teachers of English introduced themselves and used pupil names more frequently than other teachers, but they explained their position, indicated the purpose of the interview and used 'ice-breakers' less frequently.

An examination of sub-skill cluster A - stimulus variation - reveals that teachers of English used variation less frequently than teachers of other subjects. Teachers of subjects other than English used more changes in voice modulation, more changes in speech rate, more changes in interviewer position, more actual pauses and more potential pauses. The most noticeable differences between the sets of teachers occurred in voice modulation and actual pauses. Teachers of subjects other than English used more than three times as many actual pauses per interview, and twice as many voice modulations. This finding encourages the view that teachers of English may find that their own facility with language encourages them to talk without allowing pupil time for thinking or finding words. Further light may be shed upon this view when interviewer talk time is analysed.

In sub-skill cluster B - procedural techniques, there were two sub-skills which were considered positive, and seven considered negative, the first three of the negative sub-skills were repetitions of various kinds. As might be expected, teachers of English were more likely to follow their pupil's indicated area of choice, and both groups of teachers used advance organisers infrequently. In the avoidance of repetitions of all kinds, teachers of English were superior to teachers of other subjects. Teachers of other subjects used more than seven times as many repetitions of their own question, and twice as many repetitions of the reply from the pupil. In general, teachers of English avoided answering their own questions, read or wrote notes half as many times as other teachers, taught on fewer occasions but did interrupt more frequently.

The analysis of interviewer and total talk time provides interesting information.

	English	Other subjects
Interviewer talk time	212.32	280.05
Total talk time	631.62	583.46
Percentage interviewer/total	33.62%	48.00%

Interviewer and Total Time - English v. Other Subjects

The teachers of English held longer interviews and talked less themselves, thus they produced a marked difference in the percentage of interviewer to total talk time. This finding seems to conflict with the view stated earlier, and yet perhaps both are compatible if the reader views the time information as a gross measure and the pauses information as finer detail.

Figures from sub-skill cluster C - non-verbal and extra verbal techniques - indicate that teachers of English used more gestures, more self manipulations and more utterances, but fewer object manipulations, and fewer eye-contact breaks than the teachers of other subjects. The largest difference in technique occurred in the use of utterances: the teachers of English used nearly three times more than the other teachers.

Both groups of teachers used lower, middle and higher order questions in the same order of frequency. In the second categorisation of questions into open and closed, it was found that teachers of English asked fewer open questions and more closed questions.Teachers of other subjects used in excess of twice as many prompts and six times as many pauses following questions as the teachers of English did.

In sub-skill cluster C - negative techniques - teachers of subjects other than English used almost twice as many repetitions of pupil answers.

In using the techniques of reinforcement, teachers of English used fewer verbal encouragements, fewer verbal acceptances, and used the pupil's answer slightly more often than teachers of other subjects. The outstanding difference between these two sets of teachers was in the use of extra verbal communication. Teachers of English used approximately three times the extra verbal reinforcement techniques used by the other teachers. It is also worth noting that the verbal/extra verbal positive reinforcement totals favour the teachers of English, 40.25 to 32.74. Verbal negative

reinforcement was used less by teachers of English, and comments have already been made upon the frequency of the repetition of pupil answers. Teachers of English smiled more often, and nodded their heads much more often than teachers of other subjects. In the three remaining areas associated with reinforcement, teachers of English used the techniques with approximately the same frequency as did the teachers of other subjects.

Teachers of English did adopt a reinforcement pattern which was slightly different from the other teachers, in that they offered more single reinforcements, more double reinforcements and slightly fewer treble and quadruple reinforcements.

No other differences were observed between these two groups of teachers except that the raters awarded an average mark of 5.6/10 to pupils interviewed by teachers of English and a mark of 4.9/10 to the other pupils.

The subsidiary findings in this section two are, of course, more tentative than the findings listed earlier. Nevertheless, it would seem that the argument advanced earlier in this section cannot be upheld, that the teachers of English in this study were not rated as highly as teachers of other subjects, but that they conduct longer interviews and talk less, and that they offer more verbal, extra verbal and non-verbal reinforcement than the teachers of other subjects.

It should be noted that the findings from this section two could have been influenced by the fact that the measuring instruments were originally devised to examine integrated study subjects. It may be argued that English assessment interviews are mainly concerned with the quality of communication rather than a concentration upon knowledge and understanding, which might characterise some other subject interviews.

Section Three - Interviewers and Interviewees of the Same and Different Sexes

This section includes a re-arrangement of the ratings and recordings into interviews where the interviewer and interviewee were the same sex, and interviews where sexes of the interviewer and interviewee were different. There were three sources which indicated that this type of analysis might be interesting. The first source came from the raters and recorders who noticed that some cross-sex interviews were very different from others, the second source was the view expressed by Weitz (1974), Pease (1981) and others, that counselling and other interviews allow the display of overtly sexual non-verbal signs, and the third source was the work of Dickson (1981).

> *"The point which is especially interesting is not so much the number of variables involved, but rather the particular ones which were, and their combinations. This would suggest that the males and females were manifesting contrasting styles of interviewing. The style adopted by the females was more non-directive, passive and affiliative. Thus, they tended to make greater use of open questions*

which by their broad and unrestrictive nature, encourage the interviewee to provide lengthy replies. As interviewers, they talk less, playing the role of attentive listener. Thus, it would seem that they utilized forward leans, verbal encouragement and smiles to indicate interest and involvement and, by these reinforcing techniques, to guide the interview. This sort of style is commonly favoured n the context of the helping interview (Benjamin, 1974).
In comparison with their female counterparts, the males were more active and directive. They talked significantly more, using more frequent changes in speech rate. They also tended to make greater use of gestures and self-manipulations. Unlike the females who utilized open questions extensively, the males engaged in multiple questioning, an interviewing practice which has been roundly condemned (Bernstein et al, 1974). They also provided relatively little reinforcement."

Dickson, 1981

In order to assist in the analysis of the data, all interviews were allocated to one of the four categories, male interviewer/male interviewee, male interviewer/female interviewee, female interviewer/male interviewee or female interviewer/female interviewee. Dickson, (1981) suggests that further trials should be carried out which control for the sex of the interviewee. In this study it was not possible to do that, but a total of 178 interviews were available and they split up into the following categories, male/male 46, male/female 33, female/male 40 and female/female 59.

If the results from this study support those of Dickson (1981), one might expect to find all the techniques used as he indicated in the paragraph quoted above, and so those techniques will be examined in detail.

Before a detailed examination ('molecular') of the data is undertaken, however, it might be convenient to look at the gross rating scheme scores ('molar'). All four groups scored over 20.5, the males scored slightly higher marks (22.11) than the females (20.94) in total. It might be noted at this point that the six raters included 5 males and 1 female, and so it could be argued that males look for male characteristics, and award them a high grade.

Question Types

	M/M	M/F	F/M	F/F
Questions - Open	9.57	10.85	9.58	12.44
Questions - Closed	15.41	13.39	17.43	18.90
Questions - Lower	14.80	12.09	16.85	17.46
Questions - Middle	8.46	9.73	8.65	11.54
Questions - Higher	1.72	2.58	1.23	2.37

Types of Question by sex

If the table above is interpreted by the calculation of proportional values for types of questions, Dickson's findings are not substantiated: the females in this study did not ask more open questions than the males. It might be argued that if the females were adopting the non-directive,

passive and affiliative role suggested by Dickson (1981), then they would ask more higher order questions to encourage the interviewee to reveal personal opinions, but in this study they did not do so. The males asked more higher order questions than the females. Interestingly, both male and female interviewers asked more higher and middle order questions of female interviewees than they did of males.

Talk Time

	M/M	M/F	F/M	F/F
Talk time - interviewer	199.20	253.41	236.94	265.54
Talk time - total	599.10	607.73	568.14	654.61
percentage interviewer/total	33.25%	41.70%	41.70%	40.56%

Talk and total time by sex

In respect of talk time, Dickson's findings were not upheld. Viewing all results, it might be concluded that female interviewers talked more, especially to females, than did male interviewers. However, these figures included nine atypical interviews. If the results from these interviews were left out, then differences between male and female interview times became less marked. Cross-sex interviews had higher percentages of interviewer talk than same sex interviews.

Verbal encouragement and Smiles

	M/M	M/F	F/M	F/F
Reinforcement - verb. encourage.	1.00	0.97	2.88	3.42
Reinforcement - verb. accept.	15.35	11.55	10.23	10.39
Reinforcement - extra-verb. acc.	16.93	22.55	17.75	15.83
Reinforcement - use of answer.	5.65	5.45	5.33	5.08
Reinforcement - head nods.	21.26	22.94	12.13	14.85
Reinforcement - smiles.	2.93	2.85	2.30	3.83

Verbal, non-verbal and extra verbal positive reinforcementby sex

Thus it seems that the female teachers involved in this study, supported Dickson's finding in that they used verbal encouragement more frequently, but if the allied techniques of reinforcement are examined, a more complex pattern is revealed. The female teachers who took part in this study, used techniques of verbal acceptance on fewer occasions, used extra verbal techniques on fewer occasions, made use of the pupil answer on fewer occasions, used head nods as reinforcement almost half as often.

The use of positive reinforcement

The statement by Dickson (1981) that "males provided relatively little reinforcement", was not supported by the results of this study; in fact, the direct opposite was found.

	M/M	M/F	F/M	F/F
Reinforcement - Single	33.85	33.39	28.33	27.34
Reinforcement - Double	12.00	13.42	9.48	10.98
Reinforcement - Triple	1.54	1.39	0.93	1.39
Reinforcement - Quadruple	0.33	0.48	0.20	0.12

Multiple reinforcements by sex

Speech rate and voice modulations

In agreement with Dickson, males in this study used more frequent changes in speech rate but, more precisely than Dickson, we found that they used less frequent changes of voice modulation than female colleagues.

Gestures and self-manipulations

Dickson's findings that male interviewers make greater use of gestures and self-manipulations are supported by the data from this study; males making on average 38 or 39 gestures, females making 21 or 22 per interview, males used self-manipulations about 8 times an interview whereas females averaged 3 such non-verbal signals.

The data collected from this study seem to support the general notion that males and females use different techniques and styles of interviewing. But it seems that more precise methodology in research is needed to isolate exactly the differences. Additionally, there are some techniques which are used similarly by both male and female interviewers, and which depend upon the sex of the interviewee. In the final paragraphs of this section, a summary of the findings by sex will be attempted which may well assist other researchers.

Techniques used by female interviewers

Female interviewers in this study:-

- showed more awareness of the precise interview topic
- indicated the purpose of the interview more frequently
- used more brief "ice-breaker" openings
- changed voice modulation more frequently
- used more actual pauses and potential pauses
- repeated questions, replies and statements more frequently
- asked more questions in general
- asked more lower and middle order questions
- asked more closed questions
- used more prompts and pauses following questions
- provided more verbal encouragement
- provided more verbal and non-verbal closure indicators

Techniques used by male interviewers

Male interviewers in this study:-

- provided more evidence that general objectives had been revised
- used the name of the pupil more frequently

- made more changes in their speech rate
- interrupted more frequently
- used more gestures
- performed more self manipulations
- asked more higher order questions
- rephrased and probed more frequently
- asked more multiple questions
- provide more verbal, extra verbal and non-verbal acceptances of answers
- made more use of pupil answers
- used more head nods as reinforcement
- made more momentary and definite breaks in eye-contact
- used more single and multiple reinforcements
- invited more questions and comments
- offered more thanks or appreciation
- concluded with social courtesies more frequently

Techniques used by both male and female interviewers

Male and female interviewers in this study when interviewing female pupils:-

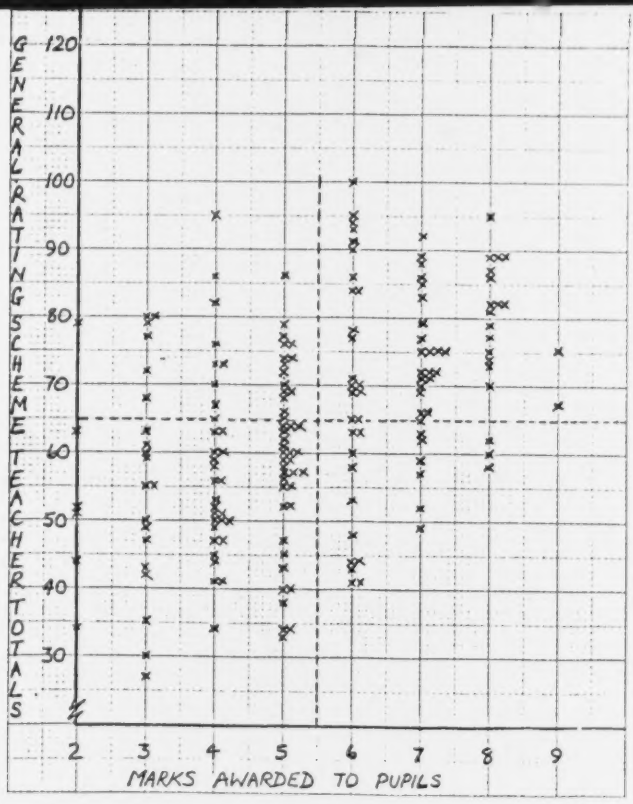
- provided more evidence that the interview had been planned
- provided more evidence that specific objectives had been revised
- more frequently explained interviewer position
- changed position more frequently
- used more advance organisers
- repeated their own question more frequently
- conducted longer interviews
- performed more object manipulations
- asked more middle and higher order questions
- asked more open questions

Male and female interviewers in this study when interviewing male pupils:-

- followed the pupil's area of choice more often
- repeated pupil replies more frequently
- asked more lower order questions
- asked more closed questions
- showed more apparent disinterest

Section Four - Teacher Scores and Pupil Scores

As the rating proceeded, the raters began to comment upon two phenomena. The first was the fact that no teacher had been rated as anywhere near perfect, and the second was that when most teachers were interviewing less able pupils, they found it difficult to use the higher order techniques which had been recommended in the guidelines.. In order to examine the relationship between teacher rating scores and pupil grades awarded by the same raters it was decided to construct a scattergram and decide significance by using a chi square calculation.



Scattergram of teacher scores against pupil scores

As can be seen from the scattergram, there appears to be a linear relationship between pupil scores and teacher total rating score. The resulting 2X2 contingency table is included below.

		Pupil Scores		
		High	Low	Totals
General Rating Scheme				
	High	58	31	89
Teacher				
Total	Low	20	71	91
Scores				
	Totals	78	102	180

As N>40, the χ^2 formula corrected for continuity was used. References for this procedure include Cohen (1976) and Siegel (1956).

$$\chi^2 = \frac{N[(AD - BC) - N/2]^2}{(A + B)(C + D)(A + C)(B + D)}$$

$$= \frac{180[(58x71 - 20x31) - 90]^2}{89x91x78x102}$$

$$= 32.44$$

Degrees of freedom are given by the formula df = (r -1)(c - 1) where r is the number of rows and c is the number of columns. In this case df = 1x1 = 1 Reference to tables (Guilford and Fruchter, 1956) indicates that a χ^2 value of 10.827 is significant at p=.001, (df = 1). The obtained value of 32.44 greatly exceeds the critical value. One might conclude that there is a linear relationship between teacher total score on the General Rating Scheme and pupil marks. To interpret the finding further, one might conclude that it is easier to show 'guideline recommended - higher order' or 'positive' teacher interviewing skills when one is interviewing an able pupil, and that observers of interviews might expect to see teachers using fewer 'positive' skills and more 'negative' skills when the pupil is less able. The exceptional teachers are perhaps those who are able to continue to use 'positive' interviewing techniques when faced with less able interviewees.

Section Five - Indicators of Performance

This section includes a comparison of the nine 'best' with the nine 'worst' teacher performances. The performance levels are judged by the total rating scheme scores. From the scattergram above, it can be seen that although no teacher achieved a score higher than 100, nine teachers were in the top-scoring 'bunch'(90 to 100) Similarly, there were nine teachers who scored low totals (37 to 47). The question of some kind of model of 'best practice' is explored in this section.

If a set of model practices can be identified, they will probably be the ones which enable the high scorers to amass their total, and those which are infrequently or never used by the low scorers.

An examination of the General Rating Scheme scores indicates that all average grades of the nine 'best' were almost two or more than two whole grades better than the average for the nine 'worst' teachers, this was quite a large difference on a six-point scale. The greatest differences were in the skill of questioning (which included level of questions, open/closed questions, use of the 'positive' sub-skills of clarity, vocabulary, rephrasing, probing, prompting, pausing and 'negative' sub-skills of ambiguity, use of multiple questions or questions couched in inappropriate language) and in the skill of planning (which included evidence that the candidate's work had been inspected, interview structure and preparation of the candidate). In general, the skill areas which received the lowest

grades from both groups of teachers were, preliminary concerns and conclusion. Average totals for the 'best' nine were 29/42 and for the 'worst' were 13/42.

For the ease of analysis the "Yes", "Not Seen" and "No" from instruments one and two were converted into numerical values of 2, 1 and 0 respectively. In scores awarded for planning, the 'best' nine approached 2 (ie. Yes), that is they scored an average of 1.78 or higher, for the middle three sub-skills of the instrument..... awareness of the interview topic, planned structure and the identification of specific interview objectives. In instrument number two dealing with preliminary concerns, the 'best' teachers used the pupil's name and used a brief 'ice-breaker' opening.

The 'best' teachers used approximately three times as many changes in voice modulation and changes in speech rate as the 'worst' teachers; whereas the 'worst' achieved slightly more changes in position and the 'best' slightly more potential pauses.

In the sub-skills B, the 'best' teacher-interviewers used about three times as many advance organisers, but in using 'negative' skills they used more repeats of pupil replies, more answers to their own question, and many more reading or writing of notes. The only negative sub-skill which was more frequently used by the 'worst' teacher-interviewers was the negative skill of repeating one's own question. All other sub-skills were approximately the same.

In sub-skill cluster C, gestures, self-manipulations and utterances were used with approximately the same frequency. However, object-manipulations and breaks in eye-contact were about three times more for the 'best' group than they were for the 'worst' group.

From instrument five on reinforcement, it was apparent thet the 'best' teacher-interviewers used about nine times as many verbal encouragements as the 'worst' group, about twice as many occasions when they made use of pupil answers, they used more verbal acceptances and more extra verbal acceptances. The 'worst' teacher interviewers used fewer repeats of pupil answers, more teacher smiles and more teacher head nods. Against the general trend, the 'best' teachers had more momentary breaks in eye-contact, more definite breaks in eye contact, and more instances of apparent teacher disinterest.

The 'best' group offered more single and more double reinforcements, but fewer treble and fewer quadruple reinforcements.

An examination of the results from instrument number six on conclusion, indicated that sub-skills C2, C3 and C4, which were indications of thanks/appreciation, specific verbal closure markers, and the observation of social courtesies, were more frequently used by the 'best' group of nine teachers.

From the assessment instrument results, it was apparent that the opportunities to achieve specific and general interview objectives were more likely to be provided by the 'best' teacher-interviewers.

In support of a previous finding it should be noted that the 'best' teachers interviewed pupils who were rated about one mark higher on average than the pupils inteviewed by the 'worst' teachers.

Probably the most interesting results are those which indicate a high teacher rating but a low pupil score. Further research upon these results and perhaps upon the individual teachers concerned might prove to be worthwhile.

In conclusion, it would appear that the raters valued particular skills and sub-skills more highly; that some selected skills were more influential than others and that success in using these techniques might lead to overall higher rating scores. In this study, the particular techniques appeared to be :-

- teacher talk time
- teacher awareness of the precise topic
- evidence of a planned interview structure
- the earlier identification of specific objectives
- use of the pupil's name and a brief "ice-breaker" opening
- variation of voice modulation and speech rate
- use of advance organisers
- lack of repetition of teacher questions
- breaking eye-contact more frequently
- use of verbal encouragement
- use of social courtesies in concluding the interview
- providing adequate opportunities for the achievement of specific interview objectives.

Section Six - Non-verbal Skills of Interviewer and Interviewee

The purpose of this final section is to examine some of the non-verbal interpersonal skills used by the interviewer and the interviewee. Non-verbal behaviour involves the use of signs and signals either singly or in combination with other signals or verbal utterances as communication.

> *"There are four practical applications of non-verbal communication research :-*
> 1. *Education, social skills training and therapy.*
> 2. *Communication between people of different cultures, classes, ages, etc.*
> 3. *Problems of communicating by telephone or videophone and for the blind and the deaf.*
> 4. *Understanding social behaviour in everyday life."*
>
> *Argyle, 1975*

From the same source it is evident that Argyle believes that non-verbal communication "makes a statement" about personality.

Two areas of interest are contained within this section. The first is a very small exploratory examination of a possible relationship between pupil non-verbal activity and performance ratings. The second is an equally small exploration of the possible relationship between teacher and pupil non-verbal behaviour.

In order to select a small number of 'typical' teacher/pupil relationships, the scattergram was used. The approximate line of 'best fit' was established, and eight interviews were selected because they approximated to the line most closely. Tallies of selected interviewee non-verbal behaviours were recorded, and plotted against pupil scores and against interviewer scores. Seven non-verbal signals were observed, they were :-

1. Breaks in eye-contact - considered to be negative.
2. Smiles - considered to be positive
3. Head nods - considered to be positive
4. Utterances - could be either positive or negative
5. Gestures - could be either positive or negative
6. Posture or Movement - could be either positive or negative
7. Facial expression - could be either positive or negative.

When the relationship between the total positive non-verbal behaviours and pupil scores was examined, a clear progression was visible.

Pupil Grade	2	3	4	5	6	7	8	9
Positive non-verbal communication	10	20	25	26	41	66	30	96

Pupil performance and positive pupil non-verbal behaviours

Similarly, when total negative non-verbal behaviours and pupil scores were examined, a clear progression was visible.

Pupil Grade	2	3	4	5	6	7	8	9
Negative non-verbal communication	64	70	50	20	33	30	23	17

Pupil performance and negative pupil non-verbal behaviours

Both of these relationships were tested by use of rho, the Spearman Rank Order Correlation Coefficient. Both were found to be significant at the .01 level (Cohen, 1976) or better. Thus in this exploratory examination, it was found that high-scoring pupils used many positive and few negative non-verbal skills, whereas low-scoring pupils displayed extensive negative and few positive non-verbal skills. It would appear that if a pupil wishes to receive a high-performance rating he must use positive non-verbal skills such as head nods, smiles and maintenance of eye contact extensively and negative non-verbal skills infrequently.

In this small examination there was little evidence to support the view that assessment interviews are social events, and that therefore one might expect to observe considerable use of such techniques as 'mirroring' or 'carbon-copying'. There were no indications of similar relationships to those described on previously. A comparison of gestures, utterances, breaks in eye-contact, smiles and head nods exhibited by the teacher with

those exhibited by the pupil, showed that there was little correlation between overall totals of the two. There was some evidence to indicate that smiles from the teacher stimulated smiles from the pupil. This finding is not surprising because it is a common response to return a smile with a smile. It is acknowledged that much more and different research will be needed in order to substantiate these findings

IMPLICATIONS AND SUGGESTED FURTHER RESEARCH

The major focus of this study was the comparison of two groups of teachers who received different treatments in their training as oral assessors, and whilst it is acknowledged that this study used a small group of twenty teachers, some interesting and worthwhile trends can be identified.

The significant success of the microteaching-plus-guidelines treatment occurred mainly between session one and session two. The major findings supported those of Britton and Leith (1977), who found that microteaching experience produced a 'transfer of learning' effect, and did not support Lynch (1975), who suggested that microteaching techniques were 'not powerful enough' to change the behaviour of highly experienced professionals. Thus the major finding implies the mounting of a microteaching type of programme of training for all the teachers involved in the massive increase in oral assessment occasioned by the implementation of the new General Certificate of Secondary Education.

Alternatively, the guidelines could be reconstructed as part of a learning package for the in-service training of teachers. This package might be used by individuals or by groups of teachers to increase awareness and study the specific skills and sub-skills associated with the role of the oral assessor.

Other implications include the re-examination and rewriting of the guidelines so as to include more recent information, further consideration of the specific skills associated with planning, preliminary concerns and conclusion, and a rethinking of the approach in guidelines two to see if there are any ways in which the highly successful approach of guidelines one can be incorporated.

Use of the 'molar' and 'molecular' types of measuring instrument seemed to complement one another, and deserve further research to improve them and to evaluate their use in the measurement of skills used in orals dealing with language and other subjects.

A substantial majority (8 of 12) of the teachers who experienced the microteaching treatment improved their performance over that which they gave in the 'base-line' session. It might be argued therefore, that microtraining of the type used in this study would suit a majority of trainee oral examiners, and that the analysis of personality factors advocated by Hargie and Saunders (1983) and Crute (1986), might prove less worthwhile than an attempt to construct an 'entry profile' of a trainee interviewer and then to use only modules which dealt with what were seen to be remedial issues.

The over-arching examination body for the southern part of England is now the Southern Examining Group. This body has publicly acknowledged that it

intends to abandon the traditional procedures associated with moderation and to move towards a policy of teacher accreditation. This study has provided some insights into the processes of measuring teacher performance, and the training of teachers in oral interviewing skills. Some of the appraisal instruments used in this study might well provide a starting point for the construction of observer 'schedules' for use in the accreditation of teachers. Additionally, the findings from this study might be used in constructing a training programme for accreditors.

The implications of the first subsidiary findings, which concerned the measurement of current practices, were fairly obvious, and supported the need mentioned earlier for further in-service training in order to increase the use of recommended skills and decrease the use of the skills considered to be negative.

The implications of the findings of the second subsidiary area are not so apparent. If the differences between the teachers of English and the teachers of other subjects are perceived as important, then training for the teachers of English is needed. Alternatively, different appraisal guides are needed if the view that English is very different from other subjects is upheld.

The findings from the exploratory work on sex effects imply a need for much more research into the styles of interviewing adopted by males and females, and the specific techniques used when males and females interview members of the same or different sex.

The section of the study which examined the relationship between highly-rated teachers and high-scoring pupils established the general trend quite firmly. The implications for any future research into the same or allied areas of interviewer training are that the researchers should seek to control for the factor of pupil ability.

Although no rank order was established, the twelve techniques which appeared to be of greater importance in the relevant section might imply that training programmes for teachers should concentrate upon those techniques.

The tentative findings from section six which explored teacher and pupil non-verbal behaviour, indicated that further research into the interaction between teacher and pupil during oral assessment interviews would be worthwhile.

Most of the subsidiary and exploratory areas discovered, identified and discussed in outline in this study are worthy of further systematic and controlled investigation.

It would seem that 'microteaching plus guidelines' methodologies have a valuable contribution to make in the training of in-service teachers to conduct assessment interviews more effectively, particularly in the light of new developments in the General Certificate of Secondary Education.

SECTION THREE

This small 'coda' is designed to express the views held by the author about the future of microteaching. In some measure the past applications of the techniques have been considered, and yet these techniques are still current in that they are being used in initial and in-service teacher training. Later this year the British Council is sending an 'expert' to Nigeria to continue his work with teacher trainers. In Britain, microteaching is still being used to train teachers, doctors, nurses, counsellors, priests and other professionals.

In a personal communication from Ron Yule, the Rector of Pretoria dated 30th December, 1987, he says :-

> "Subsequent to my visit to Britain I wrote articles on microteaching and then in collaboration with three others wrote a book entitled "Teaching and Microteaching", which has sold very well in South Africa and is used by many colleges and universities. In fact, as a result of my visit to the U.K. we really have got microteaching going in South Africa".

With regard to the future, two examples may be worth mentioning. The first concerns the development of incident analysis by Dr. J.W.Tierney during his attachment to Nottingham University. His study was designed to explore the effects of integrating an incident analysis system with an existing pre-service microteaching programme. The results suggested that the Incident Analysis System assisted the students to modify their classroom behaviour in the direction of the desired objectives. He has now constructed a programmed instruction I.A.S. Minicourse to help teacher trainers analyse interactive teaching skills (Tierney, 1986)

The second concerns the importance of microteaching in the training of those using technology-based training. In Britain there are a large number of training departments and small firms constructing computer-based learning and interactive-video programmes. Many writers of such programmes are computer experts but are not experienced in the design of learning. Following a paper presented at the second world congress of the International Foundation for Computer Based Education in Banking and Finance held in Luxembourg (Trott, 1987), based upon the application of microteaching methodologies, a matrix was constructed to illustrate the components needed to help train programmers as learning designers. Of the 68 components identified, 44 were direct applications of technigues and concepts resulting from the theory and practice of microteaching.

Microteaching is alive and well and living all over the world.

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